

EXHIBIT 27

**UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

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| <div>TQ DELTA, LLC,</div> <div>Plaintiff,</div> <div>v.</div> <div>2WIRE, INC.</div> <div>Defendant.</div> | Civil Action No. 13-cv-1835-RGA |
| <div>TQ DELTA, LLC,</div> <div>Plaintiff,</div> <div>v.</div> <div>ZHONE TECHNOLOGIES, INC.</div> <div>Defendant.</div> | Civil Action No. 13-cv-1836-RGA |
| <div>TQ DELTA, LLC,</div> <div>Plaintiff,</div> <div>v.</div> <div>ZYXEL COMMUNICATIONS, INC.</div> <div>and</div> <div>ZYXEL COMMUNICATIONS CORPORATION,</div> <div>Defendants.</div> | Civil Action No. 13-cv-2013-RGA |
| <div>TQ DELTA, LLC,</div> <div>Plaintiff,</div> <div>v.</div> <div>ADTRAN, INC.</div> <div>Defendant.</div> | Civil Action No. 14-cv-954-RGA |
| <div>ADTRAN, INC,</div> <div>Plaintiff,</div> <div>v.</div> <div>TQ DELTA, LLC.</div> <div>Defendant.</div> | Civil Action No. 15-cv-121-RGA |

**PARTIES' JOINT CLAIM CONSTRUCTION
BRIEF FOR THE FAMILY 4 PATENTS**

addresses, to mean repeating a portion of a bit stream on multiple carriers or, as described above, modulating the same bit position in a series of bits onto multiple carriers. A358–359 (Zimmerman Decl.) ¶ 40.”). Instead, Defendants assert that portions of the specification support a second “choice” for interpreting “same [input] bit value” where a value of a bit, *e.g.*, “1” is modulated on one carrier and a value of a *different* bit (not the “same bit”) that also happens to be a “1” is modulated on another carrier. Defendants’ assertion is incorrect.

The other portions of the specification that Defendants cite do not refer to a “*same* bit value”; rather, only “bit value” or “bit values” are discussed in those portions. *See supra* at pp. 61–62 (cited passages only use the term “bit value” or “bit values”). Thus, Defendants indefiniteness argument does not point to any intrinsic record where “same bit” or “same bit value” actually refers to two different bits, or the value of two different bits, as their second choice necessarily requires.

Further, Defendants second “choice” is unreasonably broad and would render the entire term superfluous. Defendants admit that their second choice is so broad as to encompass essentially any transmission:

Because the value of a bit can only be 0 or 1, once there are three or more carriers carrying only a single bit, at least two of them will be modulated by the same bit value (0 or 1). A360 (Zimmerman Decl.) ¶ 43. As the specification explains, there may be hundreds of carriers. ’627 patent at 5:54–61 (A7); A360 (Zimmerman Decl.) ¶ 43. Thus, interpreting “same bit value” to refer to the value of a bit (0 or 1), ***the claim scope is broadened to include essentially any transmission.*** A360 (Zimmerman Decl.) ¶ 43. In contrast, modulating the same bits onto multiple carriers (for improved bit error ratio or other reasons) would refer to a discrete and smaller set of transmissions. A360 (Zimmerman Decl.) ¶ 43.

Supra at p. 63 (emphasis added). And since all multicarrier systems of the type disclosed in the Family 4 patents included three or more carriers, Defendants’ second interpretation would actually be so broad as to cover ***every*** multicarrier transmission (or reception). A378–379 (Chrissan Reply Decl.) at ¶ 10.

Every claim that includes this term already recites some other language specifying transmission and/or reception a bit stream. A20 at 10:62 ('041 patent, claim 1) (“receiving the bit stream”); A21 at 11:45–46 ('041 patent, claim 14) (“the transceiver capable of receiving the bit stream”); A40 at 10:54 ('610 patent, claim 1) (“receiving the bit stream from the second transceiver”); A41 at 12:41 ('610 patent, claim 31) (“receiving the bit stream from the second transceiver”); A50 at 10:63 ('427 patent, claim 1) (“receiving the bit stream from the second transceiver”); A51 at 12:49 ('427 patent, claim 29 (“receiving the bit stream from the second transceiver”). Accepting Defendants’ second choice for interpreting the claim term—which covers all transmissions (or receptions) in a multicarrier system—would render the term meaningless or superfluous. This is not a plausible construction, since all claim terms should be given meaning. *Wasica Fin. GmbH v. Cont’l Auto. Sys.*, 853 F.3d 1272, 1280 n.10 (Fed. Cir. 2017) (“It is highly disfavored to construe terms in a way that renders them void, meaningless, or superfluous. *See Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 950–51 (Fed. Cir. 2006) (refusing to construe claim terms in a way that made other limitations meaningless).”). Therefore, Defendants’ second proposed “choice” is not a choice at all. A379 (Chrissan Reply Decl.) at ¶ 11.³¹

Lastly, Defendants seem to suggest that if the claim said “modulating the same bits onto multiple carriers,” they would understand what it means. *See, e.g., supra* at p. 63 (“In contrast, modulating the same bits onto multiple carriers (for improved bit error ratio or other reasons) would refer to a discrete and smaller set of transmissions. A360 (Zimmerman Decl.) ¶ 43.”). But

³¹ Defendants allege: “Moreover, Dr. Chrissan implicitly recognizes that ‘bit value’ is a different concept that ought to refer to the magnitude of a bit rather than its position. A360 (Zimmerman Decl.) ¶ 42.” *Supra* at p. 62. This is incorrect, as Dr. Chrissan was merely pointing out that since the “same bit” is repeated on multiple carrier signals, these repeated bits will of course have the same value when modulated on those carriers. A379 (Chrissan Reply Decl.) at ¶ 12.